Glossary for CNEAF Electricity Forms

Active Power: Also known as "real power" or simply "power." Active power is the rate of producing, transferring, or using electrical energy. It is measured in watts and often expressed in kilowatts (kW) or megawatts (MW). The terms "active" or "real" power are used in place of the term "power" alone to differentiate it from "reactive power."

Actual Peak Reduction: The actual sum of coincident reductions for all programs to the annual peak load (measured in megawatts) achieved by customers that participate in a utility DSM program at the time of the ONE annual peak. It reflects the changes in the demand for electricity resulting from a utility DSM program that is in effect at the same time the utility experiences its annual peak load, as opposed to the installed peak load reduction capability (i.e., Potential Peak Reduction). It should account for the regular cycling of energy efficient units during the period of annual peak load.

Administrative Cost: Expenses incurred by the utility for staff involved in program planning, design, management, and administration. They include labor-related expenses, office supplies, data processing, and other such costs. They exclude the costs of marketing materials and advertising, purchases of equipment for specific programs, and rebates and other cash incentives.

Air Pollution Abatement Equipment: Equipment used to reduce or eliminate airborne pollutants, including particulate matter (dust, smoke, fly, ash, dirt, etc.), sulfur oxides, nitrogen oxides (NO_x), carbon monoxide, hydrocarbons, odors, and other pollutants. Examples of air pollution abatement structures and equipment include flue-gas particulate collectors, flue-gas desulfurization units and nitrogen oxide control devices.

Alternate Fuel: Those fuels that the boiler is capable of burning but are not normally used.

Alternative Energy Source: An energy source that is not normally used, but may be from time to time. Report consumption and heating values for all alternative energy sources actually used. Report zero when the energy source is not used.

Annual Effects: The total changes in energy use (measured in megawatthours) and peak load (measured in megawatts) caused by all participants in your DSM programs. This includes new and existing participants in existing programs (those implemented in prior years that are in place during the given year), all participants in new programs (those implemented during the given year), and participants in DSM programs that were terminated after 1992. DSM measures have a useful life and the net effects of these measures diminish over time. To the extent possible, the Annual Effects should consider the useful life of efficiency and load control measures by accounting for building demolition, equipment degradation, and program attrition. The effects of new participants in existing programs and all participants in new programs should be based on their start-up dates (i.e., if participants enter a program in July, only the effects from July to December should be reported). If start-up dates are unknown and cannot be reasonably estimated, the effects can be annualized (i.e., assume the participants were initiated into the program on January 1 of the given year). If you are operating a DSM program with dual Energy Efficiency and Load Building objective, separate the effects and report each in the appropriate program category. Please note that Annual Effects are **not** a summation of 12 monthly peaks or the aggregate of the Incremental Effects for the reporting year, but are the total effects of all DSM programs for all participants (new and existing) for the year.

Annual Operating Factor: The annual fuel consumption divided by the product of design firing rate and hours of operation per year.

Apparent Power: The product of the voltage (in volts) and the current (in amperes). It comprises both active and reactive power. It is measured in "volt-amperes" and often expressed in "kilovolt-amperes" (kVA) or "megavolt-amperes" (MVA).

Ash Content: The measurement of all non-combustibles (ash) in terms of percent by weight on an "as received" basis.

Auxiliary Generator: Add definition.

Backup Generator: A generator that is used only for test purposes, or in the event of an emergency, such as a shortage of power needed to meet customer load requirements.

Bottom Ash: Residue mainly from the coal burning process that falls to the bottom of the boiler for removal and disposal.

Bottoming Cycle: A waste-heat recovery boiler recaptures the unused energy and uses it to produce steam to drive a steam turbine generator to produce electricity.

Btu Content: The measurement of the energy content of the fuel on an "as received" basis. A Btu (or British Thermal Unit) is the quantity of heat required to raise the temperature of 1 pound of water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit).

Btu: British Thermal Unit. The amount of energy required to raise the temperature of one pound of water by one degree Fahrenheit.

Bundled Utility Services (electric): A means of operation whereby energy, transmission, and distribution services as well as ancillary and retail services are provided by one entity.

Bundling: An alternative configuration of the conductors for each phase of a three-phase a.c. transmission line that permits an increase in power flow without a proportionate increase in conductor weight.

Bundling Arrangement: Identifies the conductor configuration for each phase of a transmission line, when more than one conductor per phase is used.

Bus Name: Unique name of a specific electrical connection point, as used by the respondent.

Bus Number: Unique number assigned to a specific electrical connection point by the respondent.

Busbar: A common connection point in a power station switchyard or a transmission network substation.

Capacitor: An electrical device that provides reactive power to the system and is often used to compensate for reactive load and help support system voltage.

Case Name: Unique name assigned to the electronic data file that is used to track respondent's data filings.

Circuit: A conductor or a system of conductors through which an electric current flows.

Circuit-Mile: The total length in miles of separate circuits regardless of the number of conductors used per circuit.

Circuits Per Structure, Present: Current number of circuits on supporting structures of designated line.

Circuits Per Structure, Ultimate: Planned number of circuits on supporting structures of designated line.

Coal: A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.

Cogeneration: The production of electrical energy and another form of useful energy (such as heat or steam) through the sequential use of energy, resulting in increased efficiency of fuel use.

Cogenerator: A generating facility that produces electricity and another form of useful thermal energy (such as heat or steam) used for industrial, commercial, heating, or cooling purposes. To receive status as a qualifying facility (QF) under the Public Utility Regulatory Policies Act (PURPA), the facility must produce electric energy and "another form of useful thermal energy through the sequential use of energy" and meet certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory Commission (FERC). (See the code of Federal Regulations, Title 18, Part 292.)

Combined Cycle: An electric generating technology in which electricity is produced from otherwise lost waste heat exiting from one or more gas (combustion) turbines. The exiting heat is routed to a conventional boiler or to a heat recovery steam generator for utilization by a steam turbine in the production of electricity. This process increases the efficiency of the electric generating unit.

Combined Heat and Power (CHP) System: Simultaneous production of electric power andother useful thermal energy (heat) for an industrial process, heating/cooling, or steam sales. Also referred to as cogeneration.

Commercial sector: An energy-consuming sector that consists of service-providing facilities and equipment of: businesses; Federal, State, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes institutional living quarters, sewage treatment facilities, and street lighting. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment. Note: This sector includes generators that produce electricity and/or useful thermal output primarily to support the activities of the above-mentioned commercial establishments.

Committed Resources: All existing capacity and all committed, planned capacity for the specified year. Existing capacity shall include all existing generators regardless of physical location. Committed, planned capacity shall include both capacity that is under construction and existing units that are to be retired and deactivated or reactivated during the specified year.

Conductor Material Type: Identifies the type of material used to conduct electricity.

Conductor: Metal wires, cables, and bus-bar used for carrying electric current. Conductors may be solid or stranded, that is, built up by an assembly of smaller solid conductors.

Configuration Maps: Geographic information containing transmission line, substation, and terminal information. It shows the normal operating voltages and includes information about other operational and political boundaries.

Consumption of Fuel: The amount of a combustible fuel consumed at an electric power plant or a combined heat and power plant to generate electric power and/or heat, provide standby service, or use for flame stabilization or start up. Also, for pumped storage facilities, the amount of pumping energy used (megawatthours).

Contract Receipts: Purchases based on a negotiated agreement that generally covers a period of 1 or more years.

Cooling Pond: A natural or man made body of water that is used for dissipating waste heat from power plants.

Cooling System: An equipment system that provides water to the condensers and includes water intakes and outlets; cooling towers; and ponds, pumps, and pipes.

Cooperative Electric Utility: An electric utility legally established to be owned by and operated for the benefit of those using its service. The utility company will generate, transmit, and/or distribute supplies of electric energy to a specified area not being serviced by another utility. Such ventures are generally exempt from Federal income tax laws. Most electric cooperatives have been initially financed by the Rural Utilities Service (formerly the Rural Electrification Administration), U.S. Department of Agriculture.

Delivery Service Customers: Those individuals receiving delivery service only related to the energy sold by competitive energy service providers in your distribution service area.

Delivery Service Megawatthours: The megawatthours sold by competitive energy service providers to customers in your distribution service area, which you delivered.

Delivery Service Revenue: Revenue received for the delivery of power, sold by competitive energy service providers under electric restructuring, to customers in your distribution service area. Delivery service revenue may include all charges to retail customers for delivery services (apart from the cost of energy) not billed, (or if billed, not retained) by the energy service provider, including charges for transmission service, facility and line maintenance, competitive transition (stranded-cost) assessments, and miscellaneous administrative support, such as meter reading and billing.

Demand-Side Management: The planning, implementation, and monitoring of utility activities designed to encourage customers to modify patterns of electricity usage, including the timing and level of electricity demand. It refers to only energy and load-shape modifying activities that are undertaken in response to utility-administered programs. It does not refer to energy and load-shape changes arising from the normal operation of the marketplace or from government-mandated energy-efficiency standards. Demand-Side Management (DSM) covers the complete range of load-shape objectives, including strategic conservation and load management, as well as strategic load growth.

Demand-Side Management Costs: The costs incurred by the utility to achieve the capacity and energy savings from the Demand-Side Management Program. Costs incurred by customers or third parties are to be excluded. The costs are to be reported in thousands of dollars (nominal) in the year in which they are incurred, regardless of when the savings occur. The utility costs are all the annual expenses (labor, administrative, equipment, incentives, marketing, monitoring and evaluation, and other incurred by the utility for operation of the DSM Program), regardless of whether the costs are expensed or capitalized. Lump sum capital costs (typically accrued over several years prior to start up) are not to be reported. Program costs associated with strategic load growth activities are also to be excluded.

Direct Control Load Management: The magnitude of customer demand that can be interrupted at the time of the seasonal peak load by direct control of the system operator by interrupting power supply to individual appliances or equipment on customer premises. This type of control usually reduces the demand of residential customers.

Direct Use: Commercial or industrial use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

Direct Utility Cost: A utility cost that is identified with one of the DSM program categories (e.g. Energy Efficiency or Load Management).

Dispersed Generation: Small-scale generating units located in close proximity to the load being served, but neither connected to nor synchronized with the grid. Such units may be, for example, reciprocating engines, microturbines, small combustion gas turbines, fuel cells, or photovoltaics. These units may be applied in a variety of ways, including back-up, power quality, peak shaving, or stand-by.

Distributed Generation: Small-scale generating units located in close proximity to the load being served, and connected to the grid at distribution voltages, typically less than 69kV. Such units may be, for example, reciprocating engines, microturbines, small combustion gas turbines, fuel cells, or photovoltaics. These units may be applied in a variety of ways, including back-up, power quality, peak shaving, or stand-by.

Distribution Companies: The entities that will continue to provide regulated services for the distribution of electricity to customers and serve customers who do not choose direct access.

Distribution System: The portion of the transmission and facilities of an electric system that is dedicated to delivering electric energy to an end user.

Distribution: The delivery of energy to retail customers.

Dry Bottom Boiler: No slag tanks at furnace throat area. The throat area is clear. Bottom ash drops through the throat to the bottom ash water hoppers. This design is used where the ash melting temperature is greater than the temperature on the furnace wall, allowing for relatively dry furnace wall conditions.

Dynamic Flow Control Device: A piece of equipment or system that permits real-time control of either the power flow on a given transmission line or the division of power flow among several lines.

Dynamic Thermal Rating: A method for establishing the normal and emergency power ratings of transmission lines that considers "actual" weather conditions rather than "worst case" weather conditions. This method results in higher permissible power flows at many times, without the risk of unsafe operating levels.

EIA Company Code: Unique identification number assigned by EIA to companies and entities operating in the electric power industry.

Electric Control Area Operator: The control area operator is the manager of an electric power system or combination of electric power systems to which a common automatic generation control scheme is applied to match the power output of the generators within the electric power system(s) and capacity and energy purchased from entities outside the electric power system(s); maintain scheduled interchange with other control areas; maintain the frequency of the electric power system(s) within reasonable limits; and provide sufficient generating capacity to maintain operating reserves. There are approximately 150 electric control area operators in the United States.

Electric Power Grid: A system of synchronized power providers and consumers connected by transmission and distribution lines, and operated by one or more control centers. In the continental United States, the electric power grid consists of three systems: the Eastern Interconnect, the Western Interconnect, and the Texas Interconnect. In Alaska and Hawaii, several systems encompass areas smaller than the state (e.g., individual islands; the interconnect serving Anchorage, Fairbanks, and the Kenai Peninsula).

Electric Power Plant: A station containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

Electric Power: The rate at which electric energy is transferred. Electric power is measured by capacity and is commonly expressed in megawatts (MW).

Electric Utility: A corporation, person, agency, authority, or other legal entity or instrumentality aligned with distribution facilities for delivery of electric energy for use primarily by the public. Included are investor-owned electric utilities, municipal and State utilities, Federal electric utilities, and rural electric cooperatives. A few entities that are tariff based and corporately aligned with companies that own distribution facilities are also included.

Electrical System Energy Losses: The amount of energy lost during generation, transmission, and distribution of electricity, including plant and unaccounted for use.

Electricity Generation: The process of producing electric energy or the amount of electric energy produced by transforming other forms of energy, commonly expressed in kilowatthours (kWh) or megawatthours (MWh).

Electricity: A form of energy characterized by the presence and motion of elementary charged particles generated by friction, induction, or chemical change.

Energy: The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of

the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units (Btu).

Energy Deliveries: Energy generated by one electric utility system and delivered to another system through one or more transmission lines.

Energy Effects: The changes in aggregate electricity use (measured in megawatthours) for customers that participate in a utility DSM program. Energy Effects should represent changes at the customer meter (i.e., exclude transmission and distribution effects) and reflect only activities that are undertaken specifically in response to utility-administered programs, including those activities implemented by third parties under contract to the utility. To the extent possible, Energy Effects should exclude non-program related effects such as changes in energy usage attributable to non-participants, government-mandated energy-efficiency standards that legislate improvements in building and appliance energy usage, changes in customer behavior that result in greater energy use after initiation in a DSM program, the natural operations of the marketplace, and weather and business-cycle adjustments.

Energy Efficiency: Refers to programs that are aimed at reducing the energy used by specific end-use devices and systems, typically without affecting the services provided. These programs reduce overall electricity consumption (reported in megawatthours), often without explicit consideration for the timing of program-induced savings. Such savings are generally achieved by substituting technologically more advanced equipment to produce the same level of end-use services (e.g. lighting, heating, motor drive) with less electricity. Examples include energy saving appliances and lighting programs, high-efficiency heating, ventilating and air conditioning (HVAC) systems or control modifications, efficient building design, advanced electric motor drives, and heat recovery systems.

Energy Loss: The difference between energy input and output as a result of transfer of energy between two points.

Energy Receipts: Energy brought into a site from another location.

Energy Service Customers: Customers provided with the energy only by a competitive supplier where a distribution company delivers the energy.

Energy Service Megawatthours: The megawatthours sold by competitive energy service providers to customers that receive delivery service from a distribution company.

Energy Service Provider: An energy entity that provides service to a retail or end-use consumer.

Energy Service Revenue: Revenue received by competitive energy service providers for the energy-only portion of a customer's bill.

Energy Source: Any substance or natural phenomenon that can be consumed or transformed to supply heat or power. Examples include petroleum, coal, natural gas, nuclear, biomass, electricity, wind, sunlight, geothermal, water movement, and hydrogen in fuel cells.

Exchange Energy: Exchange energy refers to specific electricity transactions between electric utilities, where electricity received is returned in kind at a later time or accumulated as energy balances until the end of the stated period, after which settlement may be by monetary payment.

Exchange, Electricity: A type of energy exchange in which one electric utility agrees to supply electricity to another. Electricity received is returned in kind at a later time or is accumulated as an energy balance until the end of a specified period, after which settlement may be made by monetary payment. Note: This term is also referred to as “exchange energy.”

Fiscal Year: The U.S. Government’s fiscal year runs from October 1 through September 30. The fiscal year is designated by the calendar year in which it ends; e.g., fiscal year 2002 begins on October 1, 2001, and ends on September 30, 2002.

FGD Sludge: Solid wastes from flue gas cleaning systems composed of sulfur salts of calcium together with varying amounts of calcium carbonate ($CaCO_3$) and unreacted lime (CaO).

File Name: The alpha-numeric name that identifies the electronic data file.

Firm Gas Purchase: Gas purchased on a long-term contract with guarantee of delivery.

Flue: An enclosed passageway for directing products of combustion to the atmosphere.

Flue Gas Desulfurization Unit (Scrubber): Equipment used to remove sulfur oxides from the combustion gases of a boiler plant before discharge to the atmosphere. Chemicals such as lime are used as the scrubbing media.

Flue Gas Particulate Collector: Equipment used to remove fly ash from the combustion gases of a boiler plant before discharge to the atmosphere. Particulate collectors include electrostatic precipitators, mechanical collectors (cyclones), fabric filters (baghouses), and wet scrubbers.

Fly Ash: Particulate matter mainly from coal ash in which the particle diameter is less than 1 x 10^{-4} meter. This is removed from the flue gas using flue gas particulate collectors such as fabric filters and electrostatic precipitators.

Fuel: Any material substance that can be consumed to supply heat or power. Included are petroleum, coal, and natural gas (the fossil fuels), and other consumable materials, such as uranium, biomass, and hydrogen. For CHP facilities, it may include fuel used to produce thermal output that is not associated with the production of electricity. (For the purpose of this form, only fossil fuels are to be reported.)

Fuel Expenses: These costs include the fuel used in the production of steam or driving another prime mover for the generation of electricity. Other associated expenses include unloading the shipped fuel and all handling of the fuel up to the point where it enters the first bunker, hopper, bucket, tank, or holder in the boiler-house structure.

Full Requirements Customer: A wholesale customer without other generating resources whose electric energy seller is the sole source of long-term firm power for the customer's service area. The terms and conditions of sale are equivalent to the seller's obligations to its own retail services, if any.

Full Responsibility Purchases: Total of all purchases for which the seller is contractually obligated to deliver power and energy to the purchaser with the same degree of reliability as provided to the seller's own native load (customers). Each purchaser and seller must agree on which of their transactions are reported under this heading.

Full Responsibility Sales: Total of all sales for which the seller is contractually obligated to deliver power and energy to the purchaser with the same degree of reliability as provided to the seller's own native load (customers). Each purchaser and seller must agree on which of their transactions are reported under this heading.

Gas: A non-solid, non-liquid combustible energy source that includes natural gas, coke-oven gas, blast-furnace gas, and refinery gas.

Generator: a) A machine that converts mechanical energy into electrical energy. b) Any device that converts a basic energy resource into electrical energy.

Generating Unit: Any combination of physically connected generators, reactors, boilers, combustion turbines, and other prime movers operated together to produce electric power.

Generator Nameplate Capacity (Installed): The maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer. Installed generator nameplate capacity is commonly expressed in megawatts (MW) and is usually indicated on a nameplate physically attached to the generator.

Green Pricing Programs: These types of programs allow electricity customers the opportunity to purchase electricity generated from renewable resources and to pay for renewable energy

development. Renewable resources include solar, wind, geothermal, hydroelectric power, and wood.

Grid Connected/Synchronized Generators: Alternating current generators that either are, or may be, connected to the grid and operated in synchronism with the grid. Two sources are synchronized when the current variations of each source are "in phase" with one another.

Gross Annual Capital Expenditures (electric generating plant): The total amount of all capital expenditures related to the generating plant for the reporting year. This includes all expenditures that either add to the fixed asset unit or increase its value.

Gross Generation: The total amount of electric energy produced by a generating unit and measured at the generator output terminals.

Gypsum: Calcium sulfate dihydrate ($CaSO_4 \cdot 2H_2O$), a sludge constituent from the conventional lime scrubber process, obtained as a byproduct of the dewatering operation and sold for commercial use.

Heat Content: The amount or number of British thermal units (Btu) produced by the combustion of fuel, measured in million Btu per unit of fuel (ton, barrel, thousand cubic feet or thousand pounds of steam).

Heat Rate: A measure of energy efficiency that defines how much energy it takes to generate a kilowatthour of electricity. Commonly expressed as Btu per kilowatthour.

Heating System: Energy Efficiency program promotion aimed at improving the efficiency of the heating delivery system, including replacement, in the residential, commercial, or industrial sectors.

Higher (gross) Heating Value (HHV): The amount of heat produced in combustion, assuming the products (carbon dioxide and water) to be cooled to the initial temperature, so that the water is condensed to liquid. The lower heating value (LLV) is the HHV minus the latent heat of vaporization of the water.

Hours Under Load: The hours the boiler is operating to drive the generator producing electricity.

Incentive Payments: Incentive payments are cash payments made by program sponsors to end-users or contractors in return for implementation of approved energy efficiency measures.

Incremental Effects: The annual changes in energy use (measured in megawatthours) and peak load (measured in kilowatts) caused by new participants in your existing DSM programs and all participants in your new DSM programs during a given year. Reported Incremental Effects should be annualized to indicate the program effects that would have occurred had these participants been initiated into the program on January 1 of the given year. Incremental effects are not simply the Annual Effects of a given year minus the Annual Effects of the prior year, since these net effects would fail to account for program attrition, equipment degradation, building demolition, and participant dropouts.

Independent Evaluation: An evaluation of the company-sponsored energy efficiency and load management programs. These evaluations are usually performed by the company, or an outside contractor.

Independent Power Producer: A corporation, person, agency, authority, or other legal entity or instrumentality that owns or operates facilities for the generation of electricity for use primarily by the public, and that is not an **electric utility**.

Indirect Utility Cost: A utility cost that may not be meaningfully identified with any particular DSM program category. Indirect costs could be attributable to one of several accounting cost categories (i.e., Administrative, Marketing, Monitoring & Evaluation, Utility-Earned Incentives, Other). Accounting costs that are known DSM program costs should not be reported under Indirect Utility Cost; those costs should be reported as Direct Utility Costs under the appropriate DSM program category.

Industrial: An energy-consuming sector that consists of all manufacturing facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing; agriculture, forestry , and fisheries; mining; and construction. Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products. This sector may include energy deliveries to large commercial customers, and may exclude deliveries to small industrial customers which may be included in the commercial sector. It also may classify by using the North American Industry Classification System or on the basis of energy demand or annual usage exceeding some specified limit set by the energy provider.

Inoperable Capacity: Generating capacity that is totally or partially out of service at the time of system peak load, either for scheduled outages (see GADS definition of "scheduled outages." These include both maintenance outages and planned outages.) or for reasons such as: environmental restrictions; extensive modifications or repair; or capacity specified as being in a mothballed state. This does not include derated portions of generating capacity.

Interchange Energy: Kilowatthours delivered to or received by one electric utility or pooling system from another. Settlement may be payment, returned in kind at a later time, or accumulated as energy balances until the end of the stated period.

Interconnection: Two or more electric systems having a common transmission line that permits a flow of energy between them. The physical connection of the electric power transmission facilities allows for the sale or exchange of energy.

Interdepartmental Service (Electric): Interdepartmental service includes amounts charged by the electric department at tariff or other specified rates for electricity supplied by it to other utility departments.

Internal Demand: Peak hour integrated megawatt demand is defined as the sum of the demands of all customers that a system serves, including the demands of the organization providing the electric service, plus the losses incidental to that service. Total Internal Demand is the sum of the metered (net) outputs of all generators within the system and the metered line flows into the system, less the metered line flows out of the system. The demand of station service or auxiliary needs (such as fan motors, pump motors, and other equipment essential to the operation of the generating units) is not included.

Interruptible Demand: The magnitude of customer demand that, in accordance with contractual arrangements, can be interrupted at the time of the NERC Council or Reporting Party seasonal peak by direct control of the System Operator or by action of the customer at the direct request of the System Operator. In some instances, the demand reduction may be effected by direct action of the System Operator (remote tripping) after notice to the customer in accordance with contractual provisions. For example, demands that can be interrupted to fulfill planning or operating reserve requirements normally should be reported as Interruptible Demand. Interruptible Demand as reported here does not include Direct Control Load Management.

Interruptible Gas Purchase: Gas purchased on a long-term contract without guarantee of delivery. The contract specifies circumstances that permit the curtailment of service by the pipeline or distribution company.

Kilowatt (kW): One thousand watts.

Kilowatthour (kWh): One thousand watthours. One kWh is equivalent to 3,412 Btu.

Latitude and Longitude: The distance on the earth's surface measured, respectively, north or south of the equator and east or west of the standard meridian, expressed in angular degrees, minutes, and seconds.

Line Length: Number of miles between beginning and ending terminal points of the line, regardless of conductors or circuits carried.

Line Loss: Electric energy lost because of the transmission of electricity. Much of the loss is thermal in nature.

Load (Electric): The amount of electric power delivered or required at any specific point or points on a system. The requirement originates at the energy-consuming equipment of the consumers.

Load Management: Refers to all DSM programs designed to reduce customer load at the time of system peak. The Load Management category is the sum of all peak reduction programs that previously were reported on the Schedule V of the Form EIA-861 as Direct Load Control, Interruptible Load, Other Load Management, or Other DSM Programs.

Load on Equipment: One hundred percent load is the maximum continuous net output of the unit at normal operating conditions during the annual peak load month. For example, if the equipment is capable of operating at 5% overpressure continuously, use this condition for 100% load.

Map Number: The alpha-numeric identification for each map file, as assigned by the respondent.

Map Software: Identification of the computer software program (or system) that was used to develop the electronic data files and will be used to electronically import and interpret the data files.

Maximum Demand: The greatest of all demands of the load that has occurred within a specified period of time.

Maximum Generator Nameplate Capacity: The maximum rated output of a generator, prime mover, or other electric power production equipment under specific conditions designated by the manufacturer.

Maximum Hourly Load: This is determined by the interval in which the 60-minute integrated demand is the greatest.

Mcf: One thousand cubic feet.

Mega Voltampere Reactive (MVAR): 1 million voltamperes reactive

Megavoltamperes (MVA): Millions of voltamperes, which are a measure of apparent power. (See definition for apparent power.)

Megawatt (MW): One million watts of electricity.

Megawatthour (MWh): One thousand kilowatt-hours or 1 million watt-hours.

Miles of Line by Voltage (Size): Length of transmission lines by voltage for the electrical system.

MMBtu: One million Btu.

Municipality: A village, town, city, county, or other political subdivision of a State.

Nameplate Capacity: see Generator Nameplate Capacity.

Net Capacity: The maximum load that a generating unit, generating station, or other electrical apparatus can carry, exclusive of station use, under specified conditions for a given period of time without exceeding approved limits of temperature and stress.

Net Energy: The net electrical energy requirements of an electric system are defined as system net generation plus energy received from others, less energy delivered to others through interchange. It includes system losses but excludes energy required for storage at energy storage facilities.

Net Energy for System: The sum of energy an electric utility needs to satisfy their service areas and includes full and partial requirements wholesale customers.

Net Generation: Gross generation minus station use.

Net Internal Demand: Internal Demand less Direct Control Load Management and Interruptible Demand.

Net Metering: Refers to an arrangement that permits a facility (using a meter that reads inflows and outflows of electricity) to sell any excess power it generates over its load requirement back to the electrical grid to offset consumption.

Net Operable Capacity: Total owned capacity less inoperable capacity.

Net Summer Capacity: The steady hourly output, which generating equipment is expected to supply to system load exclusive of auxiliary power, as demonstrated by tests at the time of summer peak demand. The summer peak period begins on June 1 and extends through September 30.

Net Winter Capacity: The steady hourly output, which generating equipment is expected to supply to system load exclusive of auxiliary power, as demonstrated by tests at the time of winter peak demand. The winter peak period begins on December 1 and extends through March 31.

Nonrequirements Customer: A wholesale customer (unlike a full or partial requirements customer) that purchases economic or coordination power to supplement their own or another system's energy needs.

Nonutility Power Producer: A corporation, person, agency, authority, or other legal entity or instrumentality that owns or operates plants for electric generation and is not an electric utility. Nonutility power producers include independent power producers, commercial and industrial plants, and combined heat and power plants. Nonutility power producers are without a designated franchised service area and do not file forms listed in the Code of Federal Regulations, Title 18, Part 141.

North American Industrial Classification System (NAICS): A classification scheme, developed by the Office of Management and Budget to replace the Standard Industrial Classification (SIC) System, that categorizes establishments according to the types of production processes they primarily use.

On-line Sag Monitoring: A process for remotely monitoring in real time the sag that occurs in a transmission line conductor as it becomes hotter due to increasing power flows.

Operable Unit: A unit that is available to provide electric power.

Operating Unit: A unit that is in operation at the beginning of the reporting period.

Organic-Fueled: Of plant or animal origin.

Other Generation: Electricity originating from these sources: biomass, fuel cells, geothermal heat, solar power, waste, wind, and wood.

Other Generation Resources: Generation reported in the EIA 860 that is not included in Regional calculations of Planned Capacity Resources, e.g., behind the meter, self-use, etc.

Other Power Producer: A corporation, person, agency, authority, or other legal entity or instrumentality that owns electric generating capacity and is not an electric utility. Other Power Producers include qualifying cogenerators, qualifying small power producers, and other nonutility generators (including independent power producers) without a designated franchise service area, and which do not file forms listed in the Code of Federal Regulations, Title 18, Part 141.

Outage: The removal from service availability of a generation unit, transmission line, or other facility for either planned or unplanned reasons**.**

Out-of-Service: A condition that reflects a facility's unavailability or inability to provide the service for which it was intended.

Ownership: The entity or entities that own(s) the generator. The entity or entities that own(s) the transmission line. Ownership may be single, joint, or held by an entity other than the respondent.

Partial Requirements Customer: A wholesale customer with generating resources insufficient to carry all its load and whose energy seller is a long-term firm power source supplemental to the customer's own generation or energy received from others. The terms and conditions of sale are similar to those for a full requirements customer.

Peak Demand: The maximum load during a specified period of time.

Peak Hour Demand: The maximum load in megawatts during the specified year.

Peak Load Month: The month of greatest plant electrical generation during the winter heating season (Oct-Mar) and summer cooling season (Apr-Sept), respectively.

Petroleum: A broadly defined class of liquid hydrocarbon mixtures. Included are crude oil, lease condensate, unfinished oils, refined products obtained from the processing of crude oil, and natural gas plant liquids. *Note:* Volumes of finished petroleum products include nonhydrocarbon compounds, such as additives and detergents, after they have been blended into the products.

Plant Purchase Price: The delivered cost of fuel in **cents** per million Btu. The cost includes all commodity, freight, taxes, and other costs incurred in the delivery of fuel to the plant. It does not include unloading costs. A current month fuel cost should reflect only costs associated with the current month fuel deliveries.

Plant-Use Electricity: The electric energy used in the operation of a plant. This energy total is subtracted from the gross energy production of the plant.

Pole/Tower Type: Identifies the type of transmission line supporting structure.

Potential Peak Reduction: The potential sum of coincident reductions for all programs to the annual peak load (measured in megawatts) achieved by customers that participate in a utility DSM program at the time of the ONE annual peak. It should account for the regular cycling of energy efficient units during the period of annual peak load.

Power Marketers: Business entities, including energy service providers, that are engaged in buying and selling electricity, but do not own generating or transmission facilities. Power marketers and energy service providers, as opposed to brokers, take ownership of the electricity and are involved in interstate trade. Power marketers file with the Federal Energy Regulatory Commission for status as a power marketer. Energy service providers may not register with the FERC but may register with the States if they only undertake retail transactions.

Power Production Plant: All the land and land rights, structures and improvements, boiler or reactor vessel equipment, engines and engine-driven generator, turbogenerator units, accessory electric equipment, and miscellaneous power plant equipment are grouped together for each individual facility.

Power: See “Active Power.”

Prime Mover: The motive force that drives an electric generator (e.g. steam engine, turbine, or water wheel); or, for reporting purposes, a device that converts energy to electricity directly (e.g., photovoltaic solar and fuel cells).

Process Steam: Steam used at an industrial combined heat and power plant, such as paper and pulp mills, refineries, and chemical plants for manufacturing processes.

Projected In-service Date: The projected date the line will be energized under the control of the system operator, including month and year.

Protection System: A system that comprises all equipment used to protect electrical facilities from damage due to an electrical or mechanical fault or due to certain other conditions of the power system.

Public Authority Service to Public Authorities: Public authority service includes electricity supplied and services rendered to municipalities or divisions or agencies of State or Federal governments under special contracts, agreements, or service classifications applicable only to public authorities.

Public Utility: Enterprise providing essential public services, such as electric, gas, telephone, water, and sewer under legally established monopoly conditions.

Public Utility District: Municipal corporations organized to provide electric service to both incorporated cities and towns and unincorporated rural areas.

Publicly Owned Electric Utility: A class of ownership found in the electric power industry. This group includes those utilities operated by municipalities, political subdivisions, and State and Federal power agencies.

Purchased Power: Power purchased or available for purchase from a source outside the system.

Qualifying Facility (QF): A cogeneration or small power production facility that meets certain ownership, operating, and efficiency criteria established by the Federal Energy Regulatory Commission (FERC) pursuant to the Public Utility Regulatory Policies Act (PURPA). (See the Code of Federal Regulations, Title 18, Part 292.)

Quantity Received: The volume of fuel received at electric generating plants and Combined Heat and Power (CHP) plants.

Railroad and Railway Electric Service: Electricity supplied to railroads and interurban and street railways, for general railroad use, including the propulsion of cars or locomotives, where such electricity is supplied under separate and distinct rate schedules.

Rated Capacity: The maximum utilization level of transmission line, or other electrical device in millions of volt-amperes, or mega-volt amperes (MVA).

Reactive Power: The portion of electricity that establishes and sustains the electric and magnetic fields of alternating-current equipment. Reactive power must be supplied to most types of magnetic equipment, such as motors and transformers. It also must supply the reactive losses on transmission facilities. Reactive power is provided by generators, synchronous condensers, or electrostatic equipment such as capacitors and directly influences electric system voltage. It is usually expressed in kilovars (kvar) or megavars (Mvar).

Reactor: A device, similar to a transformer, specifically arranged to be connected into the transmission system during periods of low power demand or low reactive power demand to counteract the natural capacitive effects of long transmission lines in generating excess reactive power and thus correct any transmission voltage effects during these periods.

Real Power: See “Active Power.”

Reconductor Line: Refers to changing or replacing the transmission line wires that conduct electricity. When accomplished as part of a line upgrade, the new conductors almost always cause an increase in the line's maximum capacity.

Regulated Entity: For the purpose of EIA’s data collection efforts, entities that either provide electricity within a designated franchised service area and/or file forms listed in the Code of Federal Regulations, Title 18, part 141 are considered regulated entities. This includes investor-owned electric utilities that are subject to rate regulation, municipal utilities, federal and state power authorities, and rural electric cooperatives. Facilities that qualify as cogenerators or small power producers under the Public Utility Regulatory Power Act (PURPA) are not considered regulated entities.

Reliability Derating: the amount of reduction in the maximum capability of a specific unit, or group of units, due to transmission constraints or the amount of generator capability that cannot be relied upon due to other issues, such as wind and hydro conditions.

Renewable Energy Resource: Energy resources that are naturally replenishing but flow-limited. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Renewable energy resources include: biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, and tidal action.

Renewable Resource: An energy resource that is naturally replenishing but flow-limited. It is virtually inexhaustible in duration, but limited in the amount of energy that is available per unit of time. Renewable resources include: biomass, hydroelectric, geothermal, solar, and wind power.

Residential: An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters. This sector may exclude deliveries or sales to apartment buildings or homes on military bases (these buildings or homes may be included in the commercial sector).

Retail: Sales covering electrical energy supplied for residential, commercial, and industrial end-use purposes. Other small classes, such as agriculture and street lighting, also are included in this category.

Retail Wheeling: The process of moving electric power from a point of generation across third-party-owned transmission and distribution systems to a retail customer.

Sales for Resale: Resale or wholesale sales are electricity sold (except under exchange agreements) to other electric utilities or to public authorities for resale distribution. (This includes sales to requirements and nonrequirements customers.)

Scheduled: A previously agreed-upon and planned event.

Self-Generator: A plant whose primary product is not electric power, but does generate electricity for its own use or for sale on the grid; for example, industrial combined heat and power plants.

Service to Public Authorities: Public authority service includes electricity supplied and services rendered to municipalities or divisions or agencies of State and Federal governments, under special contracts or agreements or service classifications applicable only to public authorities.

Size of Conductor: Identifies either the diameter or the cross-sectional area of a transmission line conductor.

Small Power Producer (SPP): Under the Public Utility Regulatory Policies Act (PURPA), a small power production facility (or small power producer) generates electricity using waste, renewables (water, wind, and solar) or geothermal energy as a primary energy source. Fossil fuels can be used, but renewable resources must provide at least 75 percent of the total energy input. (See Code of Federal Regulations, Title 18, Part 292.)

Spot Purchases: A single shipment of fuel or volumes of fuel purchased for delivery within 1 year. Spot purchases are often made by a user to fulfill a certain portion of energy requirements, to meet unanticipated energy needs, or to take advantage of low-fuel prices.

Stack: A tall, vertical structure containing one or more flues used to discharge products of combustion to the atmosphere.

Standby Demand: The demand specified by contractual arrangement with a customer to provide power and energy to that customer as a secondary source or backup for an outage of the customer's primary source. Standby Demand is intended to be used infrequently by any one customer.

Standby Generator - A generator that is available for service but normally not used, often due to economic or environmental constraints.

Start-up/Flame Stabilization Fuels: Any fuel used to initiate or sustain combustion or used to stabilize the height of flames once combustion is underway.

Static VAR Compensator: A transmission network device that provides the ability to generate and absorb reactive power and to respond automatically and rapidly to voltage fluctuations or voltage instability arising from a disturbance or disruption on the transmission network.

Station Use: Electricity that is used to operate an electric generating plant, including electricity used in the operation, maintenance, or repair of the facility (e.g., for heating, lighting, and office facilities), regardless of whether the electricity is produced at the plant or comes from another source. Station use does not include any electricity converted and stored at an energy storage facility (such as electricity used for pumping at a hydro pumped storage plant), nor direct use at a CHP plant.

Steam for Heating/Cooling: Steam produced at a combined heat and power plant for the purpose of heating and/or cooling space, such as district heating systems.

Stocks of Fuel: A supply of fuel accumulated for future use in the electric power plant. This includes coal and fuel oil stocks at the plant site, in coal cars, tanks, or barges at the plant site, or in separate storage sites.

Sulfur Content: The measurement of sulfur in terms of percent by weight on an "as received" basis.

Summer Peak Hour Demand: The maximum load in megawatts during the period June through September.

Surface Mine: A coal-producing mine that is usually within a few hundred feet of the surface. Earth above or around the coal (overburden) is removed to expose the coal bed, which is then mined with surface excavation equipment, such as draglines, power shovels, bulldozers, loaders, and augers. It may also be known as an area, contour, open-pit, strip, or auger mine.

Switchgear: Facility equipment used to tie together two or more electric circuits through switches. The switches are selectively arranged to permit a circuit to be disconnected, or to change the electric connection between the circuits.

System (Electric): Physically connected generation, transmission, and distribution facilities operated as an integrated unit under one central management or operating supervision.

Terminal Location: Identifies the physical location of one end of a transmission line segment.

Tested Heat Rate: The fuel consumed in British thermal units (Btu) necessary to generate one net kilowatthour of electric energy, reported based on primary energy source under full load conditions. Reported in Btu per kilowatthour.

Thermal: A term used to identify a type of electric generating station, capacity, capability, or output in which the source of energy for the prime mover is heat.

Tolling Arrangement: Contract arrangement under which a raw material or intermediate product stream from one company is delivered to the production facility of another company in exchange for the equivalent volume of finished products and payment of a processing fee. For the purposes of this form, a **Tolling Agreement** is an arrangement that allows one company to have marketing control of electricity produced by generating assets owned by another company. The agreement usually requires the marketer to procure the fuel supply necessary to produce the electricity.

Topping Cycle: A boiler produces steam to power a turbine-generator to produce electricity. The steam leaving the turbine is used in thermal applications such as space hearting and/or cooling or delivered to other end user(s).

Total Cost: Refers to the sum of the total Direct and Indirect Utility Costs for the year. Utility costs should reflect the total cash expenditures for the year, reported in nominal dollars, that flowed out to support DSM programs. They should be reported in the year they are incurred, regardless of when the actual effects occur.

Total Facility Use: For commercial and industrial plants, the sum of Station Use and Direct Use.

Total Internal Demand: The sum of internal demand plus standby demand.

Transfers: Those transactions where a generating unit is located in one region, but the output is totally dedicated to another region, e.g., a unit physically located in one region has a dedicated line to another region.

Transformer: A device that operates on magnetic principles to increase (step up) or decrease (step down) voltage.

Transmission: The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points at which it is transformed for delivery to consumers or is delivered to other electric systems. Transmission is considered to end when the energy is transformed for distribution to the consumer.

Transmission System (Electric): An interconnected group of electric transmission lines and associated equipment for moving or transferring electric energy in bulk between points of supply and points at which it is transformed for delivery over the distribution system lines to consumers or is delivered to other electric systems.

Transmission System Upgrade: A project (or projects) that is intended to "add capability" in some measurable way to the existing facility, whether it is a line or terminal station. In most instances, such projects will appear in the transmission owner's capital budget.

Transmission by Others Losses: Energy losses associated with the wheeling of electricity provided to an electric utility system by other electric utilities.

Transportation: An energy consuming sector that consists of electricity supplied and services rendered to railroads and interurban and street railways, for general railroad use including the propulsion of cars or locomotives, where such electricity is supplied under separate and distinct rate schedules.

Turbine: A machine for generating rotary mechanical power from the energy of a stream of fluid (such as water, steam, or hot gas). Turbines convert the kinetic energy of fluids to mechanical energy through the principles of impulse and reaction, or a mixture of the two.

Type of Facility: A descriptive identification of what the facility does, highlighting the associated functional activity (e.g., transformer, transmission line, phase-shifter).

Type of Line: Identifies the physical location of the conductor (overhead, underground, or submarine).

Type of Organization: Identifies the type of organization that best represents the line owner including the following types of utilities – Investor-owned (I), Municipality (M), Cooperative (C), State-owned (S), Federally-owned (F), or other (O).

Ultimate Consumer: A consumer that purchases electricity for its own use and not for resale.

Uncommitted Capacity: Generating resources that are physically located in the Region, but are not dedicated or contractually committed to serve load in the Region.

Underground Mine: A mine where coal is produced by tunneling into the earth to the coal bed, which is then mined with underground mining equipment such as cutting machines and continuous, longwall, and shortwall mining machines. Underground mines are classified according to the type of opening used to reach the coal, i.e., drift (level tunnel), slope (inclined tunnel), or shaft (vertical tunnel).

Uniform System of Accounts: Prescribed financial rules and regulations established by the Federal Energy Regulatory Commission for utilities subject to its jurisdiction under the authority granted by the Federal Power Act.

Unit Code: Multi-generator code that identifies all generators that are operated with others as a single unit. Such generators should report a single heat rate.

Unregulated Entity: For the purpose of EIA's data collection efforts, entities that do not have a designated franchised service area and that do not file forms listed in the Code of Federal Regulations, Title 18, Part 141, are considered unregulated entities. This includes qualifying cogenerators, qualifying small power producers, and other generators that are not subject to rate regulation, such as independent power producers.

Useful Thermal Output: The thermal energy made available in a combined-heat-and-power system for use in any industrial or commercial process, heating or cooling application, or delivered to other end users, i.e., total thermal energy made available for processes and applications other than electrical generation.

Voltage, Designed: Voltage at which a designated transmission facility was designed to operate.

Voltage, Operating: Voltage at which a designated transmission facility currently operates.

Voltage Type: With respect to transmission facilities, voltage type identifies whether the line is designed to operate at alternating current (a.c.) or direct current (d.c.) voltages.

Waste Heat Boiler: A boiler that receives all or a substantial portion of its energy input from the combustible exhaust gases from a separate fuel-burning process.

Water Pollution Abatement Equipment: Equipment used to reduce or eliminate waterborne pollutants, including chlorine, phosphates, acids, bases, hydrocarbons, sewage, and other pollutants. Examples of water pollution abatement structures and equipment include those used to treat thermal pollution; cooling, boiler, and cooling tower blowdown water; coal pile runoff; and fly ash waste water. Water pollution abatement excludes expenditures for treatment of water prior to use at the plant.

Watt (W): The unit of electrical power equal to one ampere under a pressure of one volt. A watt is equal to 1/746 horsepower.

Watthour (Wh): The electrical energy unit of measure equal to one watt of power supplied to, or taken from, an electric circuit steadily for one hour.

Wet Bottom Boiler: Slag tanks are installed usually at the furnace throat to contain and remove molten ash.

Wheeling: The use of the transmission facilities of one system to transmit power and energy by agreement of, and for, another system with a corresponding wheeling charge, e.g., the transmission of electricity over an electric utility's system for compensation, which the electric utility received from one system and delivered to another system.

Wheeling Service: The movement of electricity from one system to another over transmission facilities of interconnecting systems. Wheeling service contracts can be established between two or more systems.

Winter Peak Hour Demand: The maximum load in megawatts during the period December through March.

Year of Study: Identification of the projected years covered by a specified study.

Years Projected: Identification of the specific time period for which the projection applies.